

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: A8507

Amrish K. LAL

Appln. No.: 10/078,419

Group Art Unit: 2145

Confirmation No.: 6092

Examiner: Ajay M. Bhatia

Filed: February 21, 2002

For: PROTOCOL TO FIX BROKEN LINKS ON THE WORLD WIDE WEB

**SUBMISSION OF APPEAL BRIEF**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of \$500.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: September 18, 2006



**PATENT APPLICATION**

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**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents

P.O. Box 1450

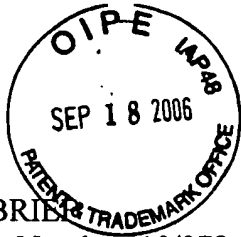
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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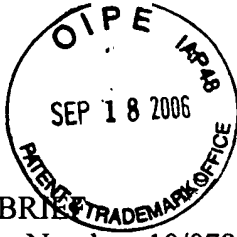


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**I. REAL PARTY IN INTEREST**

The real party in interest is International Business Machines Corporation of Armonk, New York, the assignee of the present application. The assignment was recorded on February 21, 2002 at Reel 012625, Frame 0985.



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**II. RELATED APPEALS AND INTERFERENCES**

To the best of the knowledge and belief of the Appellant, the Assignee and the undersigned, there are no other appeals or interferences before the Board of Appeals and Interferences ("the Board") that will directly affect, or be affected by, the Board's decision in the present Appeal.



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### **III. STATUS OF CLAIMS**

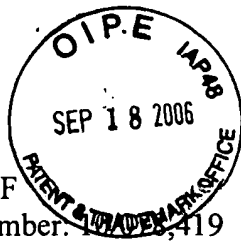
The following is a statement of the status of all claims in the proceeding and an identification of those claims that are being appealed.

Claims 1-30 are all the claims pending in the present application, each of which stands rejected as follows.

Claims 1-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Glass et al. (U.S. Patent 6,253,204, hereinafter "Glass") in view of Laiho et al. (PCT/F100/00074 or WO 00/46696, hereafter "Laiho").

The rejection of each of these pending claims is being appealed.

A copy of the claims on appeal is set forth in an attached Appendix.

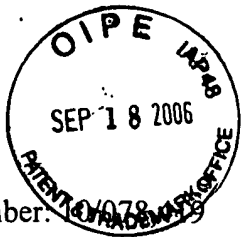


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#### IV. STATUS OF AMENDMENTS

A Response under 37 C.F.R. § 1.116 was filed on July 17, 2006, in response to the Final Office Action dated February 16, 2006. In an Advisory Action dated August 2, 2006, the Examiner states that the Response filed on July 17, 2006, has been considered but did not place the application in a condition for allowance. No changes were made to the claim set by way of the December 7, 2005 Response, and no other amendment or response was filed subsequent to the February 16, 2006 Final Office Action.



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#### **V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The following is a concise explanation of the subject matter defined in each of the independent claims involved in the appeal.

For the Board's convenience, Appellants will first describe the relevant art (pages 1-4 of the Specification), and then each of the independent claims with reference to the exemplary embodiments of the invention (pages 5-14 of the Specification). This discussion of the exemplary embodiments and the pending claims is provided for explanatory purposes only, and is not intended to limit the scope of the claims.

Generally, the invention relates to repairing links between pages in a computer network environment, such as the Internet's World Wide Web ("web"). See page 1, lines 1-2.

#### **The Related Art**

A commonly encountered problem with links in a network environment is that the links might become stale, or broken. This problem is illustrated below with the example of the Internet as the network environment.

Typically, a website is hosted on a network server connected to the Internet. Each page included in the website has a unique uniform resource locator (URL). One web page can include reference to other web pages by using hypertext links. When the user clicks on a hypertext link, the client browser displays the page or other resource specified by the URL within the hypertext link. Page 3, lines 1-5.

However, the URL within the hypertext link often can be broken. A URL link can be considered to be broken when, for example, the file specified by the URL has been renamed in

the web server, the file specified by the URL has been deleted in the web server, or the location of the file is changed. Page 3, line 21-page 4, line 2. Under any one of these circumstances, the web server returns an error message back to the client browser. Page 4, lines 3-4.

Broken links are annoying to the users, but fixing broken links is labor intensive and time consuming. Page 4, lines 5-9. Proposed solutions are difficult to implement and do not operate automatically. Page 4, lines 15-17. Accordingly, there is a need to automatically detect and fix broken links. Page 4, lines 20-21.

#### **Claim 1**

Claim 1 is directed to a system for correcting links to resources in a network. The claim recites a link checking service unit associated with a first group of resources and configured for determining if a location of a resource among the first group of resources has changed. An embodiment of a link checking service unit is described at page 8, lines 3-10; page 9, lines 14-15; and shown in Fig. 2, numerals 36 and 44.

The claim also recites a link correction service unit configured for sending a request to the link checking service to determine validity of a link, receiving a response indicating a status of the link, and modifying a document containing the link based on the received response. An embodiment of a link correction service unit is described at page 7, lines 3-7; page 7, line 20-page 8, line 2; and shown in Fig. 2, numeral 30.

#### **Claim 4**

Claim 4 is directed to a method of correcting a link in a document. The claim recites sending a request to a link checking service unit to check a status of a resource corresponding to



the link; receiving a response to said request, the response containing an indication of a changed location of the resource; and changing the document based on the indication of the changed location of the resource. An embodiment of these steps is described at page 10, lines 5 – page 11, line 6; and shown in Figs. 4A and 4B.

**Claim 10**

Claim 10 relates to an apparatus for correcting a link in a document. The claim recites a document repository having stored therein one or more documents and a corrected document repository having stored therein one or more corrected documents. An embodiment of a document repository and corrected document repository is described at page 7, lines 16-18; page 8, lines 1-2; and shown in Fig. 2, numerals 32 and 34.

The claim also recites a link correction service unit connected to the document repository and the corrected document repository, and configured to parse a link from one of the documents in the document repository, generate a request for checking the validity of the link, correct the link in response to receipt of a response message containing a corrected link, and store a corrected document having the corrected link in the corrected document repository. An embodiment of a link correction service unit is described at page 7, line 20-page 8, line 2; page 9, line 2-page 10, line 4; and shown in Fig. 2, numeral 30.

**Claim 13**

Claim 13 relates to an apparatus for correcting a link in a document. The claim recites means for sending a request to a link checking service unit to check a status of a resource corresponding to the link, means for receiving a response to said request, the response containing

an indication of a changed location of the resource; and means for changing the document based on the indication of the changed location of the resource. An embodiment of the claimed features is described at page 7, lines 10-11; and page 7, line 20-page 8, line 5.

**Claim 14**

Claim 14 is directed to a tangibly embodied computer readable medium of instructions suitable for execution by a computer and the claim recites program instructions for sending a request to a link checking service to check a status of a resource corresponding to the link. An embodiment of the claimed features is described at page 9, line 18-page 10, line 4.

The claim also recites program instructions for receiving a response to said request, the response containing an indication of a changed location of the resource; and program instructions for changing the document based on the indication of the changed location of the resource. An embodiment of the claimed features is described at page 13, lines 8-10; page 17, line 17 – page 18, line 2.

**Claim 15**

Claim 15 is directed to a method for determining a status of a link in a document. The claim recites receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource; detecting if the resource is present within a storage unit at a location indicated by the location indicator; determining if the resource is present at an alternate location if the resource is not detected in the location indicated by the location indicator; and returning an alternate location identifier indicating the alternate location of the resource if the resource is determined to be present at the alternate location. An

embodiment of these steps is described at page 10, line 5 – page 11, line 6; and shown in Figs. 4A and 4B.

**Claim 22**

Claim 22 is directed to an apparatus for correcting a link in a document. The claim recites a document repository having stored therein one or more documents. An embodiment of the document repository is described at page 8, lines 10 – 11; and shown in Fig. 2, numerals 38 and 46.

The claim also recites a mapping table unit having stored therein mapping table information associating a first prior resource-locator with a first present resource-locator, the first prior resource-locator indicating a prior location of a first resource within the document repository and the first present resource-locator indicating a present location of the first resource. An embodiment of the mapping table is described at page 8, line 16 – page 9, line 13; and shown in Fig. 3.

The claim further recites a link checking service unit connected to the document repository and the mapping table unit, and configured to locate an entry in the mapping table information based on a requested resource-locator contained in a request for information concerning location of the first resource, to identify the first present resource-locator stored in association with the first prior resource-locator, and to send a response message containing the first present resource-locator. An embodiment of a link checking service unit is described at page 10, lines 5-19; and shown in Fig. 2.

**Claim 28**

Claim 28 is directed to an apparatus for determining a status of a link in a document. The claim recites means for storing one or more resources; means for receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource; means for detecting if the resource is present within said means for storing at a location indicated by the location indicator; means for determining if the resource is present at an alternate location if the resource is not detected in the location indicated by the location indicator; and means for returning an alternate location identifier indicating the alternate location of the resource if the resource is determined to be present at the alternate location. An embodiment of the claimed apparatus is described at page 7, line 20 – page 9, line 17; and shown in Figs. 2 and 3.

**Claim 29**

Claim 29 is directed to a tangibly embodied computer readable medium of instructions suitable for execution on a computer for determining a status of a link in a document. The claim recites program instructions for receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource; program instructions for detecting if the resource is present within a storage unit at a location indicated by the location indicator; program instructions for determining if the resource is present at an alternate location if the resource is not detected in the location indicated by the location indicator; and program instructions for returning an alternate location identifier indicating the alternate location of the

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resource if the resource is determined to be present at the alternate location. An embodiment of the claimed features is described at page 9, line 18 – page 12, line 2.

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**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Whether or not claims 1-30 are rendered unpatentable under 35 U.S.C. §103(a) over  
Glass in view of Laiho.

## **VII. ARGUMENT**

Claims 1-30 are rejected under 35 U.S.C. §103(a) over Glass in view of Laiho. As an initial matter, claims 1-30 do not stand or fall together. Appellant submits separate arguments for claims 1-9, 13-14 and 30; claims 10-12 and claims 15-29 as set forth below.

Appellant submits that the Glass/Laiho combination set forth in the final Office Action does not render these claims unpatentable because the Examiner has not established a *prima facie* case of obviousness and because a person of ordinary skill in the art would not have been motivated to combine the references as the Examiner asserts.

### **The Prior Art References**

A brief discussion of the references the Examiner cites in support of the claim rejection is presented here for the Board's convenience.

#### ***Glass***

Glass relates to solving the broken link problem by providing a system for monitoring "file not found" error messages. Col. 1, line 30-32.

Glass describes that a "file not found" message is returned from the server either because the web server containing the file requested indicates that it did not find the requested file, or alternatively, there may be no response at all in which case the local client process will detect a failure to respond. Col. 4, lines 57-63. When such an error message is detected, the currently requested document information, along with the network address of the client, are placed in a message, which is sent to the site which originates the page containing the broken link. Col. 4, line 57- col. 5, line 20; and Fig. 4.

When such message is received, the server retrieves the document containing the broken link, modifies a presentation attribute of the broken link and saves the document. Col. 4, lines 38-45.

A process of determining whether a link is broken is described at col. 6, line 62-col. 7, line 4. First, a timer is set when a file is requested. A check is made to determine whether or not the file is being received. If it is, the file is indicated as available. If it is not, a check is made to see if the timer has expired. If it has not, after a certain period of time, a check is repeated to see if a document is being received. If the time has expired, the file is considered not available.

***Laiho***

Laiho relates to a method of redirecting the browser to a current location if the hyperlink clicked contains an out-of-date URL.

An embodiment of the method is shown in page 7. When an out-of-date hyperlink is clicked, the web server checks to see whether the associated URL is valid. If the URL is invalid, and a new URL is identified, the server returns the page located at the new URL to the browser. In the event that the server is unable to identify a new URL, a message may be sent to the browser indicating the requested URL is unavailable.

**Claim Rejection**

***Claims 1-9 , 13, 14 and 30***

With regard to the obviousness rejection of claim 1, the Examiner asserts that the combination of Glass and Laiho teaches every feature of claim 1, and that it would have been obvious to one with ordinary skill in the art at the time of the invention was made to combine



Glass' method of finding broken links and Laiho's process of finding the location of incorrect links and correcting them.

*The Examiner Fails to Establish a Prima Facie Case of Obviousness Because the Glass/Laiho Combination Does Not Meet All the Limitations in Claim 1.*

Claim 1 recites "a link checking service unit associated with a first group of resources and configured for determining if a location of a resource among the first group of resources has changed."

In the Office Action, the Examiner relies upon Glass for teaching the link checking service unit. Although Glass discloses returning a "file not found" message when the server cannot retrieve the requested file, Glass does not disclose, or even suggest, a corresponding structure associated with a group of resources and configured for determining if a location of a resource among the group of resources has changed for the following reasons.

First of all, Glass does not disclose that when the "file not found" message is returned upon attempted retrieval of a file, the determination whether to return the "file not found" message is made by any structure that is associated with the group of resources that include the requested file. Rather, the determination of whether a file is found is made on the requesting side. For example, the excerpt in col. 6, line 62- col. 7, line 4 describes a timer set to check whether the file is received. If a file is not received within a certain period of time, the file is considered unavailable. Therefore, in Glass, there is no structure that corresponds to the "link checking service unit associated with a first group of resources and configured for determining if a location of a resource among the first group of resources has changed."

Second, Appellant maintains that the “file not found” message in Glass does not teach or suggest determining if a location of a resource among the first group of resources has changed. In the August 2, 2006 Advisory Action, the Examiner alleges that there is no difference between the “file not found” message and the claimed features. Appellant respectfully disagrees. The Examiner seems to suggest that a “file not found” message indicates that the location of the file necessarily has changed. The Examiner’s suggestion is not supported by Glass. In Glass, even though a “file not found” message is returned if the location of a file has changed, a “file not found” message also is returned in other situations. For example, when the server hosting the file is temporarily down, a “file not found” message is returned; or when the network traffic is heavy and the requesting site fails to retrieve the file within the time limit set by a timer, a “file not found” message also is returned. See generally col. 4, lines 61-63. In these situations, the location of the file has not changed, yet, a “file not found” is returned. Accordingly, one would not be able to determine whether the location of the file is changed based on the “file not found” message taught by Glass. Therefore, Glass fails to teach or disclose “a link checking service unit associated with a first group of resources and configured for determining if a location of a resource among the first group of resources has changed.”

Laiho does not remedy the deficiencies of Glass. For example, Laiho does not teach a corresponding structure for determining whether a location of a resource among the first group of resources has changed. Laiho teaches supplying a new URL for a given URL and directing the browser to the new URL, when a new URL corresponding to the given URL is available. Laiho does not teach determining whether a location of a resource among the first group of resources

has changed because whether or not a new URL is supplied does not indicate whether the location of a file has changed. For example, even though one might infer that the location of the file has moved when a new URL is supplied, a lack of a new URL does not indicate that the location of the file has not changed. On the contrary, where there is a lack of supply of the new URL for an out-of-date URL, it might also indicate that the file has moved with an unknown new location. Therefore, whether or not a new URL is supplied for a given URL is not a certain indication whether the location of a file has changed. Since the combination of Glass and Laiho does not disclose each element of claim 1, the obviousness rejection of claim 1 should be withdrawn.

*The Examiner Fails to Establish that it Would Have Been Obvious to One of Ordinary Skill in the Art at the Time of the Invention was made to Combine Glass and Laiho.*

With further regard to the obviousness rejection of claim 1, it would not have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Glass and Laiho.

Glass and Laiho provides divergent solutions to the problem of broken links. Glass is concerned with flagging a broken link when a user could not retrieve the file that the link points to; and unflagging a previously broken link when a user has successfully retrieved the file that the previously broken link points to. Whereas, Laiho is concerned with supplying a new URL for a given URL if a new URL corresponding to the given URL is recorded. Both Glass and Laiho have their own methods of reducing the user's traffic over a broken link. Glass keeps a status of the link updated every time the status changes. Whereas, Laiho corrects a given link if

there is corresponding link recorded. Neither Glass nor Laiho suggests a motivation to combine the references. The Examiner employs impermissible hindsight reasoning, using Appellant's disclosure as a template, to combine the teachings of Glass and Laiho. Therefore, the obviousness rejection of claim 1 should be withdrawn for these additional reasons.

Claims 2-3 are patentable at least because of their dependency from claim 1.

Claims 4, 13 and 14 are patentable based at least on the reasons provided above for claim 1 because claims 4, 13 and 14 recite elements that are analogous to claim 1 and are not taught by the combination of Glass and Laiho. For example, claim 4 recites "receiving a response to said request, the response containing an indication of a changed location of the resource." Claim 13 recites "a means for receiving a response to said request, the response containing an indication of a changed location of the resource." Claim 14 recites "program instructions for receiving a response to said request, the response containing an indication of a changed location of the resource." Neither Glass, nor Laiho, nor the combination of Glass and Laiho teaches such features. Therefore, claims 4, 13 and 14 are patentable.

In addition, there is no motivation to combine Glass and Laiho for the reasons provided in the arguments made traversing the obviousness rejection of claim 1. Claims 4, 13 and 14 are patentable for those additional reasons.

Claims 5-9 and 30 are patentable at least because of their dependency from claim 4.

***Claims 10-12***

Claim 10 recites "a document repository having stored therein one or more documents; a corrected document repository having stored therein one or more corrected documents." Neither

Glass, nor Laiho, nor the combination of Glass and Laiho teaches, or even suggests, having both a document repository and a corrected document repository. Glass teaches making changes to presentation attributes of broken links contained in a file and saving the file at the same location. Laiho teaches adding a correction message to a delta file associated with source page. See Fig.

2. Neither Glass, nor Laiho, nor the combination teaches having both a document repository and a corrected document repository, as recited in claim 10. Therefore, claim 10 is patentable.

In addition, there is no motivation to combine Glass and Laiho for the reasons provided in the arguments for the rejection of claim 1. Claim 10 is patentable for those additional reasons.

Claims 11-12 are patentable at least because of their dependency from claim 10.

***Claims 15 -29***

Claims 15-29 are patentable at least because there is no motivation to combine Glass and Laiho.

With regard to claim 15, the Examiner states that the same motivation to combine Glass and Laiho applied in the rejection of claim 1 is equally applied to claim 15.

Appellant submits that Glass teaches a system updating the status of a link every time it changes. Whereas Laiho teaches supplying a new URL for a given URL if a corresponding new URL is provided. Glass and Laiho provide entirely different approaches to solve the problem of broken links. Neither Glass nor Laiho suggests a motivation to combine the references. The Examiner employs impermissible hindsight reasoning, using Appellant's disclosure as a template, to combine the teachings of Glass and Laiho. Therefore, the obviousness rejection of claim 15 should be withdrawn.

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Claims 16-21 are patentable at least because of their dependency from claim 15.

With regard to claim 22, the Examiner states that the same motivation to combine Glass and Laiho applied in the rejection of claim 15 is equally applied to claim 22. Appellant submits that there is no motivation to combine Glass and Laiho for the same reasons submitted in the arguments for claim 15. Therefore, claim 22 is patentable.

Claims 23-27 are patentable at least because of their dependency from claim 22.

With regard to claims 28-29, the Examiner did not give any motivation for combining Glass and Laiho. Appellant submits that there is no motivation to combine Glass and Laiho for same reasons submitted in the arguments for claim 15. Therefore, claims 28-29 are patentable.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

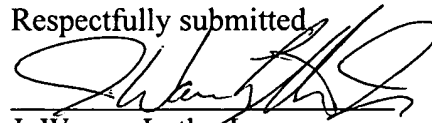
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WASHINGTON OFFICE

**23373**

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Respectfully submitted,



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Date: September 18, 2006

**CLAIMS APPENDIX**

CLAIMS 1-30 ON APPEAL:

1. A system for correcting links to resources in a network, comprising:  
a link checking service unit associated with a first group of resources and configured for determining if a location of a resource among the first group of resources has changed; and  
a link correction service unit configured for sending a request to the link checking service to determine validity of a link, receiving a response indicating a status of the link, and modifying a document containing the link based on the received response.
2. The system of claim 1, wherein said document is a World-Wide Web page, and said link is a hypertext link.
3. The system of claim 1, wherein the link checking service unit sends a response message containing a current location of said resource if the location of said resource has changed, and the link correction service, in response to receiving the response message changing a document containing the link to indicate the current location of the resource.
4. A method of correcting a link in a document, comprising:  
sending a request to a link checking service unit to check a status of a resource corresponding to the link;  
receiving a response to said request, the response containing an indication of a changed location of the resource; and  
changing the document based on the indication of the changed location of the resource.

5. The method of claim 4, wherein the response further includes a link status code indicating a status of the resource.

6. The method of claim 4, wherein the document is a World-Wide Web page and the link is a hypertext link.

7. The method of claim 4, wherein the link includes a first uniform resource locator (URL) and the indication of the changed location of the resource includes a second URL, wherein the document is changed by changing the first URL in the link to the second URL.

8. The method of claim 4, wherein the document is changed by automatically deleting the link in the document if the response does not include a replacement link and contains a link status code indicating that the link is invalid.

9. The method of claim 4, wherein said sending a request, receiving a response, and changing the document are performed in a web server.

10. An apparatus for correcting a link in a document, comprising:  
a document repository having stored therein one or more documents;  
a corrected document repository having stored therein one or more corrected documents;  
a link correction service unit connected to the document repository and the corrected document repository, and configured to parse a link from one of the documents in the document repository, generate a request for checking the validity of the link, correct the link in response to



receipt of a response message containing a corrected link, and store a corrected document having the corrected link in the corrected document repository.

11. The apparatus of claim 10, wherein the apparatus is part of a web server.

12. The apparatus of claim 10, wherein the link is a hypertext link containing a uniform resource locator (URL) and the document is a web page.

13. An apparatus for correcting a link in a document, comprising:

means for sending a request to a link checking service unit to check a status of a resource corresponding to the link;

means for receiving a response to said request, the response containing an indication of a changed location of the resource; and

means for changing the document based on the indication of the changed location of the resource.

14. A tangibly embodied computer readable medium of instructions suitable for execution by a computer, comprising:

program instructions for sending a request to a link checking service to check a status of a resource corresponding to the link;

program instructions for receiving a response to said request, the response containing an indication of a changed location of the resource; and

program instructions for changing the document based on the indication of the changed location of the resource.

15. A method for determining a status of a link in a document, comprising:

receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource;

detecting if the resource is present within a storage unit at a location indicated by the location indicator;

determining if the resource is present at an alternate location if the resource is not detected in the location indicated by the location indicator; and

returning an alternate location identifier indicating the alternate location of the resource if the resource is determined to be present at the alternate location.

16. The method of claim 15, wherein the link is a hypertext link and the location indicator of the resource is a uniform resource locator (URL).

17. The method of claim 16, wherein the resource is a web page.

18. The method of claim 16, further comprising returning a link status code indicating whether the resource is present in the storage unit.

19. The method of claim 18, wherein the link status code indicates whether the resource has been deleted from the storage unit.

20. The method of claim 15, wherein said determining if the resource is present at an alternate location is performed by consulting a mapping table associating a first location indicator with a second location indicator, wherein the first location indicator indicates a prior

location of the resource and the second location indicator indicates a present location of the resource.

21. The method of claim 20, wherein the first and second location indicators are uniform resource locators (URLs).

22. An apparatus for correcting a link in a document, comprising:  
a document repository having stored therein one or more documents;  
a mapping table unit having stored therein mapping table information associating a first prior resource-locator with a first present resource-locator, the first prior resource-locator indicating a prior location of a first resource within the document repository and the first present resource-locator indicating a present location of the first resource; and

a link checking service unit connected to the document repository and the mapping table unit, and configured to locate an entry in the mapping table information based on a requested resource-locator contained in a request for information concerning location of the first resource, to identify the first present resource-locator stored in association with the first prior resource-locator, and to send a response message containing the first present resource-locator.

23. The apparatus of claim 22, wherein the first prior and first present resource-locators are uniform resource locators (URLs).

24. The apparatus of claim 22, wherein the mapping table further includes a second prior resource-locator indicating a location of a second resource and a status code indicating a status of the second prior resource-locator.

25. The apparatus of claim 24, wherein the status code indicates that the second resource corresponding to the second prior resource-locator has been deleted.

26. The apparatus of claim 24, wherein the status code indicates that the second prior resource-locator indicates a present location of the second resource in the document repository.

27. The apparatus of claim 22, wherein the apparatus is part of a web server.

28. An apparatus for determining a status of a link in a document, comprising:  
means for storing one or more resources;  
means for receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource;  
means for detecting if the resource is present within said means for storing at a location indicated by the location indicator;  
means for determining if the resource is present at an alternate location if the resource is not detected in the location indicated by the location indicator; and  
means for returning an alternate location identifier indicating the alternate location of the resource if the resource is determined to be present at the alternate location.

29. A tangibly embodied computer readable medium of instructions suitable for execution on a computer for determining a status of a link in a document, comprising:  
program instructions for receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource;

program instructions for detecting if the resource is present within a storage unit at a location indicated by the location indicator;

program instructions for determining if the resource is present at an alternate location if the resource is not detected in the location indicated by the location indicator; and

program instructions for returning an alternate location identifier indicating the alternate location of the resource if the resource is determined to be present at the alternate location.

30. The system of claim 4, wherein the changing of the document is performed automatically.

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**EVIDENCE APPENDIX:**

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), submitted herewith are copies of any evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

Appellant submits that no such evidence has been submitted in this application on appeal.

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**RELATED PROCEEDINGS APPENDIX**

Submitted herewith are copies of decisions rendered by a court or the Board in any proceeding identified about in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

Appellant respectfully submits that no other proceedings have been identified in Section II and hence, no copies of any decisions rendered by a court or the Board are submitted herewith.